

## ENVIRONMENTAL DISCLOSURE AND FINANCIAL PERFORMANCE OF QUOTED CONSUMER GOODS FIRMS IN NIGERIA

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### ABSTRACT

*Ambiguity surrounding environmental disclosure can lead to informational deficiencies for conscientious financiers and investors during evaluations. This research delves into how environmental disclosure influences the financial results of Nigerian consumer goods companies that are publicly traded. The study includes a sample size of seventeen (17) enterprises out of the twenty-one (21) such firms in Nigeria. Hypotheses were evaluated through a model for random effect regression after diagnostic examinations. The findings reveal that environmental conservative cost disclosure (ECCD) positively impacts the asset return of Nigerian consumer products companies that are listed on public markets, whereas environmental compliance cost disclosure (ECD) shows a positive non-significant effect on return on assets for these firms. Conversely, community development cost disclosure exhibits a non-significant negative effect on return on assets. The study suggests that consumer goods firms in Nigeria should prioritize environmental conservative cost disclosure (ECCD) in their financial reporting practices. The study further advises that consumer goods firms in Nigeria ought to continue adhering to environmental laws and reveal their regulations and disclose their detailed compliance costs (ECD). This ensures they meet sustainability reporting standards, ultimately enhancing financial performance.*

**Keywords:** Consumer Goods Firms, environmental accounting, financial Performance

### INTRODUCTION

Environmental disclosure is the procedure of measuring and communicating the effects a company's operations, goods, and services have on the environment. It involves identifying, measuring, and reporting on the objective of assessing the environmental expenses and advantages related to a company's activities, disclosure is to help companies understand their environmental impact and to make more informed decisions that support sustainability and responsible environmental stewardship. One key aspect of environmental disclosure is the inclusion of environmental costs and benefits in financial performance reporting. Traditionally, financial performance has been measured solely in terms of economic outcomes such as revenue and profit. However, environmental disclosure recognizes that environmental costs and benefits are important regarding a company's financial standing or achievements. (Charles *et al.*, 2017).

Research has shown that businesses that integrate environmental disclosure into their financial reporting tend to perform better financially over an extended period. A study by KPMG discovered that corporations that prioritize sustainability and environmental stewardship tend to have higher revenue growth and stronger financial performance than their peers. In addition to the financial benefits, environmental disclosure can also help companies improve their environmental performance by identifying opportunities for resource efficiency and waste reduction. By tracking and reporting on environmental impacts, companies can better understand their environmental footprint and take steps to minimize it (Emeke *et al.*, 2021). Overall, incorporating environmental disclosure into financial performance reporting is an important step towards sustainability and responsible environmental stewardship.

Environmental conservation has become an increasingly important concern for businesses around the world. Consumer goods companies are being held responsible for their environmental impact, and investors are paying closer attention to how businesses are addressing this issue. One aspect of this accountability is the reporting of environmental expenses and their impact on financial performance (Fabian *et al.*, 2022). Environmental costs include expenses associated with pollution control, waste management, and resource conservation. These costs can directly influence a company's financial performance by potentially decreasing profits, increase expenses, and potentially lead to legal or regulatory fines. Moreover, environmental cost disclosure can help consumer goods companies attract socially responsible investors who are more likely to support Investors who observe robust environmental practices in companies might be inclined to maintain their shares over an extended period, thereby contributing to stability in the company's stock price.

There is a growing recognition among investors and other stakeholders of the importance of environmental compliance cost disclosure when assessing a company's financial performance. By disclosing the costs associated with environmental compliance, consumer goods companies can offer investors valuable insights into their dedication to sustainability and their potential exposure to environmental risks. Studies like Fabian *et al.* (2022) and Ikpor (2019) have shown that companies that disclose their environmental compliance costs tend to have achieve superior financial performance compared to those that do not. For instance, research conducted by Harvard Business School revealed that companies that voluntarily disclose their greenhouse gas emissions tend to have higher market valuations than those that do not. Similarly, a study by the Global Reporting Initiative found that companies that disclose their sustainability performance tend to have higher financial returns than those that do not.

The cost disclosure and financial performance are important considerations in community development. By increasing transparency around the costs of community development projects and tracking financial performance, stakeholders can ensure that resources are being used effectively to achieve sustainable development goals.

The issue of environmental disclosure and financial performance raises important questions about how consumer goods companies in Nigeria can best measure and report on their environmental impact to support sustainability and responsible environmental stewardship. Ilelaboye and Alade (2022) asserted that there is evidence indicating that companies integrating environmental disclosure into their financial reporting generally exhibit stronger financial performance in the long run there is still a lack of consensus around best practices and standards for environmental disclosure. The absence of established standards for assessing and disclosing environmental effect is one major problem. Despite the existence of multiple frameworks and standards such as the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI), there is still a lack of uniformity and comparability in the measures that businesses employ.

Jamil and Rodiel (2020) argued the need for better integration of environmental and financial reporting. While some companies have made strides in this area, there is still a tendency for environmental reporting to be treated as a separate, standalone process rather than an integral part of financial reporting. There is a need for more research into the financial performance and environmental transparency are correlated. Despite data pointing to a positive link between the two, additional investigation is required to pinpoint the most efficient methods for include environmental disclosure in financial reporting as well as to comprehend the underlying cause mechanisms. It will be imperative

that businesses who want to improve their financial and environmental performance, as well as legislators and regulators who want to encourage environmental stewardship and sustainability, address these concerns.

Certain companies might be hesitant to disclose their environmental costs due to concerns about negative reactions from investors. This reluctance can be problematic because it can result in incomplete information, potentially hindering investors' ability to make well-informed decisions. Insufficient clarity in disclosing during assessments, environmental practices may result in knowledge gaps for investors and responsible financiers (Rabaya & Saleh, 2021). The disclosure of environmental costs is becoming more and more popular. Businesses are giving more and more information about their environmental impact and related expenses. This can aid investors in comprehending the potential long-term risks and rewards connected to an organization's environmental policies. Businesses that do not prioritize environmental compliance are more likely to be badly run and to experience long-term setbacks in their operations. Certain businesses might not be in a better position to handle environmental hazards and seize new opportunities in the expanding sustainable economy if they don't invest in sustainable practices and disclose the expenses associated with environmental compliance.

Empirical studies, such as those conducted by Nkwoji (2021), Olayemi and Ishola (2021), and Mohammed et al. (2022), have indicated that many recent investigations into environmental disclosure and financial performance in Nigeria have utilized outdated data, typically from 2019 or earlier. Only a few, like Fabian et al. (2022), have included data up to 2021. The current study on the effect of environmental disclosure on the financial performance of consumer products companies in Nigeria was motivated by these gaps in the literature, which highlight the need for more research in this field. In order to provide information up to 2021, this study will update the data and pay particular attention to the time periods that correspond with Nigeria's adoption of International Financial Reporting Standards (IFRS).

This study's primary goal is to ascertain how environmental disclosure affects the financial performance of listed consumer products companies in Nigeria, the study specifically intends to:

(i) evaluate the effect of environmental conservative cost disclosure on return on assets of quoted consumer goods firms in Nigeria; (ii) determine the effect of environmental compliance cost disclosure on return on assets of quoted consumer goods firms in Nigeria; and (iii) ascertain the effect of community development cost disclosure on return on assets of quoted consumer goods firms in Nigeria. Based on the specific objectives, the following hypotheses were formulated thus:

Ho<sub>1</sub>: Environmental conservative cost disclosure has no significant effect on return on assets of quoted consumer goods firms in Nigeria.

Ho<sub>2</sub>: Environmental compliance cost disclosure has no significant effect on return on assets of quoted consumer goods firms in Nigeria.

Ho<sub>3</sub>: Community development cost disclosure has no significant effect on return on assets of quoted consumer goods firms in Nigeria.

## REVIEW OF RELATED LITERATURE

### Environmental Accounting

Environmental disclosure, as a subset of accounting, encompasses evaluating the influence of an entity's operations on the environment. This process entails recognizing, quantifying, and communicating both the environmental expenses and benefits incurred (Smith, 2021). As organizations are increasingly pressured to exhibit sustainability and accountability to stakeholders, the significance

of environmental disclosure has grown. Smith (2021) highlights a crucial advantage of environmental disclosure, noting its ability to aid organizations in pinpointing areas where they can mitigate their environmental footprint and achieve cost savings.

Lifecycle assessment (LCA) stands out as a prevalent approach to environmental disclosure, offering a method to evaluate how a product or service affects the environment from the beginning to the conclusion of its useful life. With this methodology, the environmental impact of a product or service is measured at all phases of its lifecycle, including the extraction of raw materials, production, usage, and disposal (Smith, 2021). By conducting LCA, organizations can pinpoint the most impactful environmental aspects of their offerings and devise strategies to mitigate them (Tilt, 2016).

### **Environmental Conservative Cost Disclosure**

Environmental conservative cost disclosure refers to the practice of companies providing information about the financial costs associated with their impact on the environment. This includes disclosing the costs of greenhouse gas emissions, water contamination, and additional environmental damages caused by their operations. Securities and Exchange Commission (2021) asserted that the goal of environmental conservative cost disclosure is to provide Investors and stakeholders give a detailed account of a company's environmental impact and the potential financial risks associated with that impact.

### **Environmental Compliance Cost Disclosure**

Environmental compliance cost disclosure refers to the practice of companies disclosing the financial costs associated with complying with environmental regulations and standards. This includes costs related to pollution control equipment, emissions monitoring, wastewater treatment, and other measures taken to reduce a company's environmental impact. International Finance Corporation (2017) reported that the goal of environmental compliance cost disclosure is to provide investors and providing stakeholders with a thorough understanding of a company's environmental compliance endeavors and the financial commitments necessary to uphold compliance.

### **Community Development Cost Disclosure**

Community development cost disclosure refers to the practice of companies providing information about the financial costs associated with their impact on the communities where they operate. This includes disclosing the costs of community development projects, philanthropic contributions, and other social investments made by the company. The goal of community development cost disclosure is to provide investors and stakeholders with a more complete a representation of the possible financial risks connected to a company's social effect (United Nations Global Compact, 2015). Companies can assist investors in making better selections by revealing these expenses and better assess the long-term sustainability of their investments. Additionally, by identifying and quantifying the costs of community development, companies can also better manage their social impact and work to build stronger, more resilient communities (United Nations Environment Programme Finance Initiative, 2018).

### **Financial Performance**

The ability of a business to turn a profit, control expenses, and maintain long-term financial stability is referred to as financial performance. Numerous financial measures, including revenue, profit margins, return on assets, and cash flow, can be used to assess this. A company's ability to make money is essential to its success. and can be assessed using diverse financial indicators. Companies demonstrating robust financial performance typically yield substantial revenue and profits, whereas

those with weaker financial performance may encounter challenges in maintaining financial stability. A financial metric called return on assets (ROA) compares a company's net income to its total assets to determine how profitable it is. The return on assets (ROA) ratio shows how well a business uses its resources to turn a profit. Higher ROA ratios often imply effective asset use for profit creation, whereas lower or negative ROA ratios suggest challenges in turning a profit from assets.

## **Theory Underpinning the Study**

### **Triple Bottom Line**

A methodology for evaluating organizational performance that takes into account social and environmental effects in addition to financial outcomes is called the Triple Bottom Line (TBL). The TBL was first presented by John Elkington in his 1997 book "Cannibals with Forks: The Triple Bottom Line of 21st Century Business," and it has since become widely recognized as a instrument for promoting corporate responsibility and sustainability. The TBL is made up of the "three Ps"—people, planet, and profit—which are three essential elements. These elements are interconnected and interdependent, emphasizing the importance of addressing all three for sustained success and sustainability.

The "people" aspect of the TBL pertains to the social implications of an organization's activities, encompassing its interactions with workers, clients, vendors, and the general public. This includes issues like human rights, labor standards, community involvement, and initiatives for diversity and inclusion. The TBL's "planet" aspect deals with how an organization's activities affect the environment. This includes how it uses natural resources, implements energy-saving techniques, handles trash, and greenhouse gas emissions reduction initiatives. The "profit" element of the TBL focuses on the financial performance of an organization, encompassing aspects like revenue generation, profitability, and shareholder value. The TBL is commonly utilized as a framework for sustainability reporting, which involves publicly disclosing an organization's performance in terms of social and environmental aspects in addition to financial aspects. Organizations can develop strategies to improve their sustainability practices and obtain insights into their societal and environmental consequences by using the TBL to evaluate performance. Essentially, the Triple Bottom Line is an important framework that companies can use to promote sustainable business practices and get them to think about the wider social and environmental effects of what they do.

Organizations can assess their environmental consequences in relation to their economic and social performance by integrating environmental disclosure into the TBL framework. As a result, decision-makers may allocate resources, manage risks, and pursue sustainability projects with greater knowledge. Organizations can improve their financial performance by cutting costs and increasing operational efficiency by taking the environmental effects of their activities into account. To sum up, the TBL paradigm highlights how social, environmental, and economic sustainability are interdependent. Organizations can use environmental disclosure as a tool to evaluate and report on their environmental footprints, which can help with decision-making and eventually boost financial performance by cutting expenses and improving productivity.

### **Empirical Review**

Ilelaboye and Alade (2022) studied the effect of environmental accounting on the performance of family-owned businesses in Nigeria by utilizing the costs of community development, health care, and security as stand-ins. The study used an ex-post facto research design and concentrated on 12 family-owned businesses that were listed on the Nigerian Stock Exchange (NSE) and belonged to the industrial and oil and gas sectors. A purposeful sample of six family-run businesses that provided

environmental disclosures was taken. Data from the annual reports of the selected firms was taken from 2012 to 2020. For data analysis, descriptive statistics, correlation, and Ordinary Least Squares methods were used. The findings showed that whereas community development costs had a negative and significant impact on financial performance, restoration costs had a negative and minor influence. On the other hand, there was a slight but favorable correlation between health safety costs and financial performance. The report recommends that health and safety expenses be paid for as long as possible, and it calls on stakeholders to create a "Trust Fund Trustees" to oversee community development expenses in a way that promotes accountability and fairness. The study's conclusions were strengthened by the use of post-IFRS implementation data (2012-2020) in Nigeria.

Mohammed *et al.* (2022) looked into the relationship between environmental disclosure and the financial success of steel companies. The study examined the population of 41 listed manufacturing companies on the Nigerian Stock Exchange between 2012 and 2019 using an ex post facto and content research design. Using a census sampling technique, the sample size consisted of all 41 listed manufacturing enterprises. Secondary data were gathered from the Nigerian Stock Exchange fact book covering a six-year period and the annual reports of these listed manufacturing companies in Nigeria. A multivariate regression analysis model was used in the investigation. Findings showed that listed pharmaceutical manufacturing businesses in Nigeria had a negligible decline in their financial performance (ROA) as a result of disclosure on material utilization (DMT). On the other hand, listed pharmaceutical manufacturing businesses in Nigeria saw a notable improvement in their financial performance when they disclosed information regarding environmental compliance. According to the study, Nigerian listed pharmaceutical manufacturing businesses should give priority to disclosing the ingredients they use and consume during production. By employing data from Nigeria's post-IFRS implementation era (2012-2019), the research refined its conclusions.

Olayemi *et al.* (2022) looked into how the performance of Nigerian listed banking businesses related to social and environmental accounting. The study used total enumeration sampling with an ex-post-facto research strategy to choose 13 banks during a ten-year period from 2012 to 2020. For data analysis, both descriptive and inferential statistics were used. The results showed that the return on capital employed (ROCE) of Nigerian financial institutions was highly impacted by social and environmental accounting. The study also found that business size moderates the impact of social and environmental accounting disclosure on ROCE of Nigerian banking enterprises. The report makes the following recommendation: laws requiring social and environmental accounting data to be disclosed in company financial statements should be put into place. The study's robustness was enhanced by the use of data from Nigeria's post-IFRS implementation era (2012–2020).

Fabian *et al.* (2022) investigated the impact of environmental accounting disclosure on Nigerian publicly traded companies' profitability from 2017 to 2021. Using an ex post facto research design, the study chose five businesses from different economic sectors. The chosen firms' annual reports and financial statements served as the study's primary source of data. The methods used for data analysis included descriptive statistics, correlation analysis, and ordinary least squares regression. The findings demonstrated that the return on equity and return on assets of listed companies in Nigeria were considerably impacted by environmental accounting disclosure. On return on capital employed, however, environmental accounting disclosure was found to have little effect. In order to facilitate performance control and measurement, the study advises businesses to implement standardized reporting and disclosure procedures for environmental practices. Data from Nigeria's post-IFRS implementation era (2017–2021) were included in the study, which increases the validity of the conclusions.

Nkwoji (2021) investigated the relationship between environmental accounting standards and the financial performance of a subset of Nigerian listed oil and gas businesses between 2012 and 2017. Using secondary data from the annual reports and accounts of the companies, which were available on their websites and on the Nigerian Stock Exchange, the study used an explanatory, historical, and correlational research design. Regression analysis was used to analyze the data and test the hypothesis. The results showed that among the Nigerian oil and gas businesses under investigation, there was no discernible correlation between environmental spending and net profit. In order to improve stakeholder trust and show openness in their business practices, the report suggests, among other things, that the management of major oil and gas corporations concentrate on raising their environmental spending and publicizing such expenditures. It is important to note that the study used data from Nigeria during the post-IFRS adoption era (2012-2017), which could have affected the results because of the delayed implementation.

Nwafor *et al.* (2021) looked into how Nigerian oil and gas businesses' financial performance was affected by green accounting. Data for the study were gathered from the annual reports and accounts of the companies covering the years 2010 to 2020 using an ex post facto research design. E-view 9.0 was used to help with the regression analysis that tested the hypotheses. The findings showed that green management accounting and environmental cost accounting had a substantial impact on the financial performance of oil and gas firms, respectively. According to the report, in order to improve the working environment and boost the companies' financial performance, the management of Nigerian oil and gas enterprises should give environmental cost accounting top priority. Crucially, the research took into account data from Nigeria's pre- and post-IFRS implementation periods (2010-2020), which could have affected the results.

Olayemi and Ishola (2021) investigated how Nigerian companies' financial performance was impacted by green accounting. Ordinary least squares (OLS) regression was used to examine data that was taken from the annual reports of two natural resources businesses that were listed on the Nigerian stock exchange over a five-year period (2015–2019). The study found that environmental accounting—more especially, environmental conservation cost—had a major impact on natural resource businesses' financial performance. It urges businesses to follow environmental laws and regulations and suggests that the government compel corporations to report on how their operations affect the environment in their yearly reports. The study's use of data from Nigeria during the post-IFRS adoption era (2015–2020) is significant since it strengthens the conclusions.

Olusola *et al.* (2021) the study examined the connection between listed multinational firms in Nigeria's financial performance and environmental accounting transparency. The study included secondary data obtained from the annual reports of the corporations between 2011 and 2020. The variables under investigation included the environmental disclosure index, return on assets, and earnings per share. Panel regression and descriptive statistical analysis were used to these data points. Results indicated a notable and positive impact regarding earnings per share (EPS) disclosure of environmental accounting. On return on assets (ROA), however, the impact was determined to be statistically insignificant and negative. The study underscores the importance of multinational corporations and other Nigerian firms voluntarily disclosing their environmental activities, even in the absence of legal requirements, given the demonstrated influence on company earnings per share. Notably, the research accounted for both pre and post-IFRS implementation periods (2010-2020) in Nigeria, acknowledging the potential impact of this transition on the study's outcomes.

Jamil and Rodiel (2020) studied sought to determine how environmental accounting affected the value and profitability of 24 publicly traded mining and oil firms in the Philippines. Panel regression analysis was used, which included time-series and cross-sectional data. The results showed that neither profitability nor business value were significantly impacted by environmental accounting disclosure. On the other hand, location was discovered to have a major impact on return on equity when taken into account as a moderating element. On the other hand, it was discovered that reporting environmental costs had a large impact on return on equity, and that Tobin's Q, net profit margin, and years listed on the Philippine Stock Exchange (PSE) were all strongly impacted by moderating by firm size, board size, and location. The study recommends that the Mines and Geosciences Bureau mandate mining and oil companies to submit environmental reports, including but not limited to the Annual Environmental Protection and Enhancement Program (EPAP) discussed in annual reports, semi-annual reports on mining, waste, and mill tailings production, containment, or utilization, and reports on claims for compensation for damages. It's important to note that the study was conducted in the Philippines, and its findings cannot be generalized to other environments due to environmental differences. Additionally, there is a need for an update of the study to include Nigeria's contemporary era.

Adediran and Alade (2013) studied looked at the relationship between environmental accounting standards and business performance. The annual reports and accounts of fourteen randomly chosen publicly traded companies in Nigeria provided the study's data. To examine the data, multiple regression analysis was utilized. The findings showed a substantial inverse relationship between environmental accounting and both EPS and ROCE (return on capital employed). On the other hand, a strong positive correlation was found between environmental accounting, dividend per share, and net profit margin. In light of these conclusions, the study recommends governmental implementation of tax credits for organizations adhering to environmental regulations. Furthermore, it suggests the compulsory adoption of environmental reporting standards in Nigeria to enhance organizational performance and contribute to the overall development of the nation. It's important to note that the study's relevance may be impacted by its 2013 timeframe, which affects the currency of its findings.

## **METHODOLOGY**

In order to examine the effect of environmental disclosure on the financial performance of consumer products companies listed on the Nigerian Exchange Group, this study used an ex post facto research approach. The study's population comprised all twenty-one consumer goods firms listed as of December 31, 2021, as detailed in Appendix A. Seventeen consumer goods firms were sampled for this study based on specific criteria. These criteria included firms being listed on the Nigerian Exchange Group and remaining operational throughout the period from 2012 to 2021, along with possessing the requisite basic data in their financial statements for the study period. Consequently, the study focused on a sample of seventeen firms meeting these criteria. For analysis, information was taken from the annual financial reports of the seventeen Nigerian consumer products companies that were chosen. A random effect model was applied to panel data analysis in order to determine the link between the independent and dependent variables. The Hausman test result validated the suitability of the random effect regression model, which led to its selection. Robustness tests, such as the Hausman Specification Test, Heteroscedasticity Test, Breusch-Pagan Lagrangian Multiplier, Pearson Correlation, and Shapiro-Wilk Normality Test, were also conducted to guarantee the dependability of the findings.

This study's dependent variable is financial performance as measured by return on assets (ROA). The three environmental disclosure components that comprise the independent variable are Community

Development Cost Disclosure (CDCD), Environmental Compliance Cost Disclosure (ECD), and Environmental Conservative Cost Disclosure (ECCD).

A specified functional relationship is presented as adapted from Jamil and Rodiel (2020) as follows:

$$ROA = f(ECCD + ECD + CDCD)$$

Econometrically, the model is stated thus:

$$ROA_{it} = \alpha + \beta_1ECCD_{it} + \beta_2ECD_{it} + \beta_3CDCD_{it} + e_{it}$$
 -----Model

Where:  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  are parameters estimated.

ROA = Return on Assets

ECCD = Environmental Conservative Cost Disclosure

ECD = Environmental Compliance Cost Disclosure (ECD)

CDCD = Community Development Cost Disclosure

$\alpha$  = Constant

e = Error term

i = Firms

t = Periods

A-priori expectations:  $\beta_1$ ,  $\beta_2$  and  $\beta_3 > 0$

**Measurement of Variables**

Variables	Acronym	Measurement	Source
Financial Performance (Dependent variable)	Return on Assets (ROA)	Profit after tax divided by total assets	Fabian <i>et al.</i> (2022), Mohammed <i>et al.</i> (2022).
Independent Variables	Environmental Conservative Cost Disclosure (ECCD)	Information on efficient use, reduction, reuse, recycling, conservation and management of natural resources (water, land, air, paper, raw materials) exist. 1 = Reported/discussed with the reporting period. 0 = Not reported.	Jamil and Rodiel (2020), Nwafor <i>et al.</i> (2021), Olusola <i>et al.</i> (2021).
	Environmental Compliance Cost Disclosure (ECD)	Information on efficient use, reduction, reuse, recycling, conservation and management of natural resources (water, land, air, paper, raw materials) exist. 1 = Reported/discussed with the reporting period. 0 = Not reported.	Mohammed <i>et al.</i> (2022).
	Community Development Cost Disclosure (CDCD)	Information on efficient use, reduction, reuse, recycling, conservation and management of natural resources (water,	Ilelaboye and Alade (2022).

land, air, paper, raw materials) exist.  
 1 = Reported/discussed with the reporting period.  
 0 = Not reported.

**Source: Researchers’ Computation (2023)**

**DATA ANALYSIS AND DISCUSSION OF FINDINGS**

The dataset includes information from seventeen (17) publicly listed consumer goods firms encompassing Return on Assets (ROA), Environmental Conservative Cost Disclosure (ECCD), Environmental Compliance Cost Disclosure (ECD), and Community Development Cost Disclosure (CDCD) for the period spanning 2012 to 2021, as outlined in Appendix B. Analytical procedures were conducted using Stata 15 software, which involved Descriptive Statistics, Shapiro-Wilk Normality Test, Pearson Correlation, Heteroscedasticity test, Breusch-Pagan Lagrangian Multiplier, Hausman Specification Test, and the implementation of a Random Effect Regression Model. Appendix C contains a detailed report on the conclusions reached after the data in Appendix B was analyzed.

**Descriptive Statistics**

The descriptive statistics for the whole set of data are summarized in Table 2.

Variable	Obs	Mean	Std. Dev.	Min.	Max.
ROA	166	4.60	7.88	-25.69	26.49
ECCD	170	0.62	0.49	0	1
ECD	170	0.82	0.39	0	1
CDCD	170	0.89	0.31	0	1

**Source:** Researcher’s Computation using STATA 15 software

Table 2: Analysis shows that ROA (return on assets) ranges from -25.69 to 26.49 at the lowest and maximum values, respectively, with a mean value of 4.60 falling within this range. This spread suggests a diverse performance across the studied period. Additionally, the standard deviation of 7.88, exceeding the mean, indicates robust growth during the reviewed period.

Similarly, Environmental Conservative Cost Disclosure (ECCD) spans the whole study period, ranging from a minimum of 0 to a maximum of 1, with a mean value of 0.62 within this range, indicating a continuous spread. With a 0.49 standard deviation, which is less than the mean, indicates slower growth over the review period.

Table 2 Furthermore, the analysis indicates that Environmental Compliance Cost Disclosure (ECD) has a mean value of 0.62 and falls between a minimum value of 0 and a maximum value of 1. This spread indicates that the distribution was constant during the time under study. Additionally, the 0.49 standard deviation, which is less than the mean, suggests slower growth during the review period.

Additionally, Table 2 illustrates that Community Development Cost Disclosure (CDCD) contains a mean value of 0.89 within a range that spans from a minimum value of 0 to a maximum value of 1, suggesting a well-distributed distribution across the study period. 0.31 is the standard deviation, which is less than the mean, implies slower growth during the review period.

**Shapiro Wilk’s Normality Test**

The results of the normality test using the Shapiro-Wilk Normality test in conjunction with the normal distribution curve are shown in Table 3 and Figure 2 below.

Variable	OBS	W	V	Z	Prob>Z
Residual	170	0.93	8.80	4.96	0.00

**Source:** Researcher’s Computation using STATA 15 software

Figure 2: Normal Distribution Curve

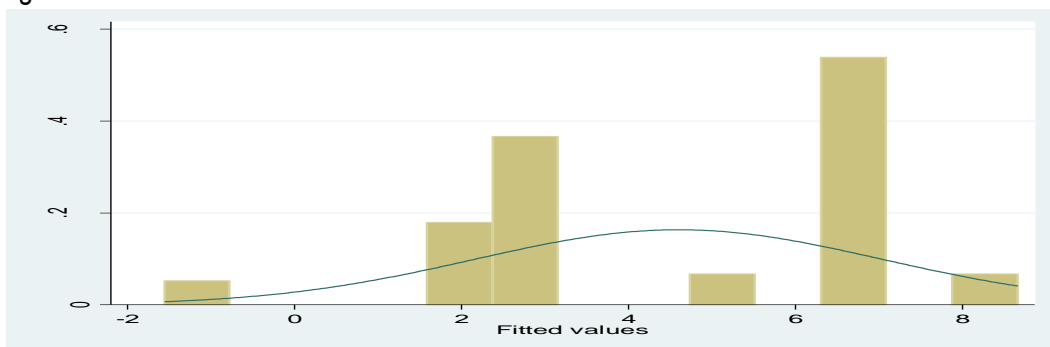


Table 3 above displays the residual and the associated z value of 4.96, as well as the less than 0.05 probability value of 0.00. The residual is not normally distributed around the mean, as this mismatch suggests. The normal distribution curve shown in Figure 2 above supports this conclusion. As a result, this goes against one of the basic presumptions of the linear regression method, which states that normally distributed residuals, necessitates the adoption of a robust regression technique for correction.

**Pearson Correlation**

The Pearson correlation matrix for the data set is displayed in Table 4 below, indicating the strength of the relationships between the variables.

Variable	ROA	ECCD	ECD	CDCD
ROA	1			
ECCD	0.2007	1		
ECD	0.1915	-0.1521	1	
CDCD	-0.0942	0.0833	-0.1625	1

**Source:** Researcher’s Computation using STATA 15 software

In order to identify multicollinearity problems in the model, the correlation matrix evaluates the connections between the proxies of independent factors and the dependent variable as well as possible links among the proxies of independent variables. The results are shown in Table 4, where a correlation coefficient of 0.2007 indicates a weak but 20% positive link between Environmental Conservative Cost Disclosure (ECCD) and Return on Assets (ROA) of quoted consumer goods firms in Nigeria. With a correlation coefficient of 0.1915, the table also shows a 19% positive and weak link between Environmental Compliance Cost Disclosure (ECD) and Return on Assets (ROA) of mentioned consumer goods firms in Nigeria.

Furthermore, with a correlation coefficient of -0.0942, the table shows a weak and negative correlation of almost 9% between the Return on Assets (ROA) and the Community Development Cost Disclosure (CDCD) of listed consumer products companies in Nigeria. Furthermore, all of the coefficients fall below Gujarati's (2003) recommended threshold of 0.80, suggesting that the correlations among the proxies of the independent variables themselves are modest. This implies that there are no multicollinearity problems in the model, supporting one of the linear regression's tenets.

**Heteroscedasticity Test Results**

**Table 5:** Heteroscedasticity test

Type of test	Chi2	P-Value
Heteroscedasticity Test	4.25	0.0393

**Source:** Researcher's Computation Using STATA 15 software

To assess the robustness of the data for this study, a heteroscedasticity test was conducted. The findings indicated that the data exhibited heteroscedasticity, suggesting a violation of the basic linear regression model. This is supported by the results of the heteroskedasticity test presented in Table 5, which revealed a chi-square value of 4.25 with a corresponding p-value of 0.0393. These results fail to meet the classical linear regression assumption of homoskedasticity, indicating a lack of constant error variance.

**Breusch-Pagan Lagrangian Multiplier**

Table 6 below presents the result of the Breusch-Pagan Lagrangian Multiplier test conducted.

Variable	Chibar2	P-Value
ROA	73.45	0.0000

**Source:** Researcher's Computation using STATA 15 software

The Breusch-Pagan Lagrangian Multiplier test was performed to determine the best model between Pooled Ordinary Least Squares Regression and the Random Effect Model (REM). The test results, which are shown in Table 6 above, show that the corresponding probability value is 0.00 and the chi-square value is 73.45. According to these results, the Random Effect Model (REM) is more appropriate than the Pooled Ordinary Least Squares Regression for the dataset analyzed.

**Hausman Specification Test**

Table 7 below presents the result of a Hausman specification test conducted.

Chi2	0.51
Prob. Chi2	0.9171

**Source:** Researcher's Computation using STATA 15 software

Panel data were used in this investigation, which over time may develop potential correlations and clustering mistakes. This is due to the possibility that every consumer products company has distinct entity-specific traits that affect its Return on Assets (ROA); this is known as unobserved heterogeneity. Both the result variable and the explanatory variables may be biased by these circumstances. As such, it is imperative that this matter be addressed. The Hausman test was used to determine which model fit the data the best. Table 7 presents the results, which suggest that the random effect model is a better

fit than the fixed effect model. The Chi-square value of 0.51 and the related p-value of 0.9171, which are not statistically significant at any significance level, support this.

### Results of the Robust Random Effect Regression Model

Table 8 below is the robust random effect regression model conducted for the estimation of this model.

Variable	Coefficients	z-value	Prob.
Cons.	2.015	0.67	0.504
ECCD	3.392	3.19	0.002
ECD	2.908	1.45	0.148
CDCD	-2.221	-1.06	0.278
R-sq overall	0.6945		
Wald chi2	12.76		
Prob. >chi2	0.005		

**Source:** Researcher's Computation using STATA 15 software

The results above show that the combined effects of Environmental Conservative Cost Disclosure (ECCD), Environmental Compliance Cost Disclosure (ECD), and Community Development Cost Disclosure (CDCD) can predict roughly 69% of the variation in Return on Assets (ROA), yielding an Overall R-squared value of 0.6945. This implies that the model's use and combination of the independent variables are reasonable. Furthermore, the model's validity and reliability are further supported by the Wald chi-square value of 12.76 and the significant P-value of 0.005, which show that the model is well-fitted for the study.

### Test of Hypotheses

Table 8 indicates that, for the period under review, Environmental Conservative Cost Disclosure (ECCD) significantly positively impacted the Return on Assets of listed consumer goods firms in Nigeria, as indicated by the z-value of 3.19 and the accompanying p-value of 0.002. Consequently, the first null hypothesis which states that the Return on Assets of stated consumer goods companies in Nigeria is not significantly impacted by Environmental Conservative Cost Disclosure (ECCD) is rejected.

Additionally, Table 8 shows that throughout the reviewed period, Environmental Compliance Cost Disclosure had an insignificantly beneficial influence on the Return on Assets of listed consumer goods firms in Nigeria, as indicated by the z-value of 1.45 and the accompanying p-value of 0.148. As a result, the second null hypothesis, which states that the Return on Assets of listed consumer goods companies in Nigeria is not significantly impacted by Environmental Compliance Cost Disclosure, is accepted.

The results shown in Table 8 above show that during the reviewed period, Community Development Cost Disclosure had an insignificantly negative impact on the Return on Assets of quoted consumer goods firms in Nigeria, as indicated by the z-value of -1.06 and the corresponding p-value of 0.278. As a result, null hypothesis three which states that the Return on Assets of quoted consumer products companies in Nigeria is unaffected by Community Development Cost Disclosure is accepted.

### Discussion of Findings

According to the report, quoted consumer goods companies in Nigeria have much higher Return on Assets (ROA) when Environmental Conservative Cost Disclosure (ECCD) is used. According to this, an increase in Environmental Conservative Cost Disclosure (ECCD) will result in a 3.392 unit increase in Return on Assets (ROA) for financial institutions in Nigeria. This finding is in line with the Triple Bottom Line (TBL) concept, which emphasizes the interdependence of social, environmental, and economic sustainability, as well as the researcher's initial expectations. Organizations can evaluate and report on their environmental impacts through the use of environmental disclosure, which helps to make informed decisions and, in the end, improves financial performance by reducing costs and increasing efficiency. The study discovered a strong positive correlation between mentioned financial enterprises in Nigeria's Environmental Conservative Cost Disclosure (ECCD) and Return on Assets (ROA). This conclusion is consistent with findings from other studies by Olayemi and Ishola (2021), Nwafor et al. (2021), Ngozi and Ike (2019), and Nwaiwu and Oluka (2018). That is in contradiction with Nkwoji's (2021) findings, though.

According to the study, the Return on Assets (ROA) of publicly traded consumer goods companies in Nigeria is positively impacted by Environmental Compliance Cost Disclosure (ECD) but not significantly. This suggests that a 2.908 unit increase in the value of Return on Assets in Nigeria will arise from an increase in Environmental Compliance Cost Disclosure among listed consumer goods firms. This result is consistent with what the researcher had anticipated, and it is further reinforced by the Triple Bottom Line (TBL) concept, which emphasizes how social, environmental, and economic sustainability are interdependent. Organizations can assess and disclose their environmental impacts with the help of environmental disclosure, which is a useful tool that helps inform decision-making and, in the end, improves financial performance by cutting costs and increasing efficiency. Furthermore, Nkwoji (2021) and Olusola et al. (2021) findings are in line with the study's conclusion on the little positive impact of Environmental Compliance Cost Disclosure (ECD) on Return on Assets (ROA) of listed consumer products companies in Nigeria. It does, however, conflict with the results of Ngozi and Ike (2019), Mohammed et al. (2022), Nwafor et al. (2021), and Nwaiwu and Oluka (2018).

According to the study, the Return on Assets (ROA) of listed consumer products companies in Nigeria is negatively impacted by Community Development Cost Disclosure, albeit not significantly. This implies that a rise in Community Development Cost Disclosure will result in a -2.221-unit decline in the Return on Assets of publicly traded consumer products companies in Nigeria. This study deviates from the Triple Bottom Line (TBL) concept, which emphasizes the interdependence of social, environmental, and economic sustainability, and goes against the researcher's initial expectations. The study's findings on community development cost disclosure run counter to the idea that environmental disclosure helps organizations evaluate and report their environmental consequences, which helps them make better decisions and perform better financially.

Additionally, the results of Olusola et al. (2021) are in line with the finding of the negligible detrimental impact of Community Development Cost Disclosure on Return on Assets of listed consumer products firms in Nigeria. The results of Ikpor et al. (2019), Ilelaboye and Alade (2022), Nwafor et al. (2021), Nwaiwu and Oluka (2018), and Nwambeke et al. (2019) are in contrast with it, though.

## **CONCLUSION AND RECOMMENDATIONS**

The financial performance of Nigerian consumer products companies that are quoted can be improved by concentrating on Environmental Conservative Cost Disclosure (ECCD). Businesses with transparent

environmental costs are more likely to see an improvement in their Return on Assets (ROA), which in turn leads to better sustainability and financial success. Comparably, giving Environmental Compliance Cost Disclosure a priority can also improve the bottom line of publicly traded consumer goods companies in Nigeria. Businesses that reveal the expenses associated with environmental compliance have a higher chance of seeing an increase in Return on Assets (ROA), which leads to improved sustainability and financial performance. Nonetheless, the financial performance of Nigerian consumer products companies that are publicly traded is adversely affected by Community Development Cost Disclosure, albeit not significantly. As a result, consumer products companies might not profit financially from sharing community development expenses in Nigeria.

The following suggestions are made in light of the conclusions mentioned above:

- i. Consumer goods companies in Nigeria ought to prioritize environmental conservative cost disclosure (ECCD) in their financial reporting. This strategic emphasis can lead to improved financial performance and bolster their reputation among investors and stakeholders who prioritize sustainability and responsible business practices.
- ii. Nigerian consumer product companies should persist in complying with environmental regulations and disclosing their detailed compliance costs (ECD). This proactive approach ensures compliance with sustainability reporting guidelines, which eventually improves financial results.
- iii. The management of consumer goods firms should refrain from prioritizing community development cost disclosure, as it has been discovered to have a negligible effect on their financial results

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